REMARKS

Claims 17-42 are all the claims pending in the application. Claims 27 and 33 are amended herein by deleting the phrase "such as". No new matter is presented.

I. Response to Claim Rejection 35 U.S.C. § §112

Claim 27 is rejected under 35 U.S.C. § 112, 2nd paragraph, as allegedly being indefinite regarding the recitation "such as".

The expression "such as" has been deleted in claims 27 and 33, thereby obviating the rejection.

Accordingly, Applicants respectfully request withdrawal of the rejection.

II. Response to Claim Rejection 35 USC §102 (a)

Claims 17-19 are rejected under 35 USC §102 (a) for the same grounds raised by the Examiner in the previous Office Actions dated September 15, 2009 and April, 14, 2010.

Applicant provided persuasive remarks in its responses to the abovementioned Office Actions, and the claim rejection had been withdrawn by the Examiner in the Advisory Action issued on September 17, 2010 (see first paragraph of the Advisory Action on page 2).

Considering that the Examiner did not raise new arguments for rejecting the pending claims, Applicant requests that the rejection under 35 USC 102(a) should be withdrawn for the same reasons previously presented in the Responses dated January 11, 2010 and July 30, 2010.

Applicants traverse the rejection as being improper.

As previously noted, upon the filing of the application an executed Declaration signed by all inventors was submitted referencing the specification of the present application and indicating that all inventors contributed to the claimed invention. Thus, the signed Declaration is sufficient

evidence that all inventors contributed to the claimed invention. On the other hand, the Examiner has not presented a reasonable basis for doubting the executed Declaration.

Further, Applicant submits that the Examiner improperly considers that, because the claimed yeast strains were deposited, they were known and available to the public as of the date of the deposit.

However, it is well established that the mere reference to a deposit in the application does not necessarily mean that the deposited biological material is available, as stated in MPEP §2404.01. That is, the mere fact that Applicants have indicated that a deposit was made does not mean that the deposited strains were made available to the public with unrestricted access so as to make them known and useable by the general public as asserted by the Examiner. To the contrary, the Statements of Availability indicate and the deposit rules allow for "restrictions on availability" during the pendency of the application.

In the instant case the deposit was made under the Budapest Treaty. Rule 11.3 of the Budapest Treaty provides that deposited samples may not be provided to the public (i.e., to third parties not having the express authorization of the depositor) before publication of a patent application referring to the deposit. Since the publication of the instant application took place 18 months after the priority date, the soonest the deposited material could have been made available to the public is 18 months after the priority date.

Moreover, the deposit was made by the Applicant (Lesaffre et compagnie) on behalf of all the inventors, i.e., the same inventive entity, and therefore is not the work of another. The work of the same inventive entity may not be considered prior art against the claims unless it falls under one of the statutory categories, and the deposit does not qualify as prior art under section 102.

Finally, the Examiner has no legal basis for maintaining that the Declaration signed by the inventors is insufficient to establish that all inventors contributed to the claimed invention. The fact that various embodiments of the invention are claimed is not relevant to this Issue.

In view of the above, the rejection under 35 U.S.C. §102 is improper. Accordingly, withdrawal of the rejection is respectfully requested.

III. Response to Claim Rejections 35 USC §103

A. Satoshi et al in view of Hill

Claims 17-42 are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Satoshi et al in view of Hill

The Examiner states that R1 teaches yeast strains and hybrid strains that possess high sugar and freeze tolerance.

The Examiner further states that R2 teaches a method in which baker's yeast is propagated in the presence of carboxylic acid.

The Examiner therefore purports that it would have been obvious to one of ordinary skill to develop hybrids of baker's yeast which tolerate high sugar concentration in dough as disclosed by R1 and to propagate such strains in the presence of carboxylic acids having 2-4 carbon atoms as taught by R2.

Applicant respectfully traverses the rejections and disagrees for the following reasons.

Applicant submits that R1 teaches yeast strains having a good leavening ability in sweet dough, such as KY5649, KY5531, TYR and the hybrid strains obtained from TYR, as well as yeast strains having a poor leavening activity such as KY5650.

It must, first of all, be acknowledged that the skilled person in the art would never have selected the KY5650 for preparing the yeast strains claimed in the present, invention, since the

KY5650 has a weak dough-raising ability and a poor leavening ability in sweet dough containing 30% sugar (Table 4, page 3501, Materials and Methods, subtitle "Strains and cultures" and column left first paragraph "*lean dough yeasts do not perform well in sweet dough systems because of their lack of osmotolerance*").

Only the strains KY5649, KY5531, TYR and the hybrids thereof would have reasonably been considered by the one of ordinary skill since these strains are the only ones disclosed in R9 which are capable to tolerate high sugar concentration, and to provide with a good leavening ability in sweet dough containing 30% sugar (Table 4, page 3501, Materials and Methods, subtitle "Strains and cultures").

Further, it clearly appears in R1 , that the well performance of the KY5649, KY5531, TYR and hybrid strains thereof has been evaluated in a sweet dough system by measuring the CO_2 production (see table 4).

The parental TYR strain provides a production of CO_2 of 65.7 ml/2h in a dough containing 30% of sugar (baker's percentage, see Table 1, page 3500) and for a piece of 20 g of flour (see Materials and Methods, subtitle "Dough-raising test"). The dry matter content of the yeasts in R1 equals to 33% (See Materials and Methods, subtitle "Strains and cultures"). Thus, the CO_2 production of the TYR strain in a dough containing 30% of sugar (baker's percentage) expressed in ml/h/mg of dry matter content equals to [(65.7/2) / [((3000*33)/100)*(20/100)]] = 0.16 ml/h/mg of dry matter content of yeast. The commercial baker's yeast KY5649 and KY5531 provide respectively a CO2 production of 67.6 m1/2h and of 67.8mI/2h, both corresponding to a CO_2 production of 0.17 ml/h/mg of dry matter content of yeast.

As it can further be seen in R1, the 893 strain corresponds to the hybrid strain obtained after sporulation of the parental TYR strain and after hybridization of the sporulation clones,

which provides the best results on sweet dough with a CO_2 production of 70.5 ml/2h, corresponding to a CO_2 production of 0.18 ml/h/mg of dry matter, content of yeast.

It therefore results from the above elements that R1 teaches strains having a good leavening ability in sweet dough and having CO_2 production comprised between 0.17 and 0.18 ml of CO_2/h/mg of dry matter content of yeast in a dough containing 30% of sugar.

Attention of the Examiner is drawn to the fact that, in the present application, the leavening properties in sweet dough of the claimed strains are compared to a control strain named NCYC996. The technical characteristics of the NCYC996 strain are disclosed in the US 4,396,632 patent (see in our present-published application the paragraph [0024], line 15m). The NCYC996 strain provides a CO_2 production between 30 to 32 ml of CO_2/h (see column 20, paragraph (1) and (2) lines 33 to 50 of patent US 4,396,632) in the experimental conditions of the "A4 test" which is described in column 8 lines 7-10 of US 4,396,632. The CO_2 production of stain NCYC996 expressed in CO_2 ml/h/mg of dry matter content of yeast in dough containing 27.5% sugar (baker's percentage) is thus between 0.19 and 0.20 ml of CO_2/h/mg of dry matter content of yeast (30/160=0.19 and 32/160=0.20; the dry matter content of the yeast is disclosed column 7 line 34 of US 4,396,632 and equals to 160 mg). 27.5% sugar corresponds to 5.5 g of saccharose in 20 g of flour (see column 8 line 9 and column 7 line 34 of US 4,396,632)

Considering that the CO_2 production of the NCYC996 strain is of the same order than the CO_2 production of the strains disclosed in R1, Applicant submits that it would therefore be assumed that the NCYC996 strain can be considered as equivalent to those disclosed in R1, in particular as regards the leavening ability thereof on sweet dough.

Further, as discussed above, R2 teaches a method in which baker's yeast is propagated in the presence of carboxylic acid having 2-4 carbon atoms. The dough used in R2 for assaying the

leavening activity of yeast in presence of organic acids only contains wheat, salt and tap water and contains no source of sugar (see line 64-66 of column 5 of R2).

The combined teaching of R1 with R2 would thus have led one of ordinary skill to propagate the strains of R1 in the presence of carboxylic acids having 2-4 carbon atoms, according to the process disclosed in R2. The resulting strains of this combination would have had the following properties:

- a good leavening ability on sweet dough, and

- a good leavening ability under acid conditions.

It is nevertheless to be noted that, the present application unambiguously disclosed the adaptation of the NCYC996 control strain to acid conditions, through the use of a process which is highly similar to that disclosed in R2 (paragraph [0024] lines 6th-12th and paragraph [00181).

It therefore results that yeast strain used as control in the present application both possesses leavening ability in sweet dough which is comparable to those of the strains discloses in R1, and a good leavening ability under acid conditions as per a results of the adapting process disclosed in R2.

In view of these elements, it should therefore be acknowledged that the NCYCS96 strain actually corresponds to the strain which would have been obtained by the skilled person in the art in combining the teachings of R1 and R2.

However, it is unambiguously disclosed in the present invention that the claimed strains have **enhanced properties** when compared to the yeast strain control NCYC996. The improved efficiency of the claimed strain is indeed monitored by measuring the proof time thereof on sweet dough. It clearly appears that said proof time is decreased by 5 to 11% owing to the claimed strains, relative to the NCYC996 control strain for dough containing 25% sugar and

0.4% of calcium propionate by mass (see PT1 test). Furthermore, said proof time is decreased by 25 to 35% owing to the claimed strain, relative to the NCYC996 control strain for dough containing 40% sugar (see PT2 test). Results in Table 2, page 5, further unambiguously shows evidence that the claimed yeast strains are more efficient than the NCYC996 strain, and thus more efficient than the yeast strains which would have resulted from the combination of R1 and R2 teachings. The selection process used in the present invention does therefore not only provide yeast strains having both good leavening abilities in sweet dough and in acid conditions **but also further provides yeast having an unexpectedly-improved proof time**. As explained in the present application, in particular at paragraph [0019] lines 9th to 12th, an improved proof time results in a shorter time for development of the dough in the pan before to be placed in the oven. The pans are thus immobilized for less time. It results therefore that the baker can make additional batches in the same day without increasing its number of pans.

Considering the fact that none of R1 or R2 actually provide any indication or even suggestion as regards the improvement of the proof time of strains growing on sweet dough, it should therefore be acknowledge that the skilled person in the art, in view of the combined teachings of R1 and R2, would never have had any reasonable expectation of success to prepare any one of the presently claimed strains,

As discussed above, the skilled person would have indeed at most arrived to the NQYC966 strain, which is used as a control throughout the present application.

The 1-2971, 1-3142 and 1-3143 strains claimed in the present application are therefore patentable over R1, even in view of R2.

Accordingly, Applicants respectfully request withdrawal of the rejection.

B. Ando et al in view of Hill

Claims 17-42 are further rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Ando et al (R3) in view of R2.

The Examiner in particular states that R3 teaches ultra-high sugar range and freeze tolerance yeasts.

The Examiner further states that R2 teaches a method in which baker's yeast is propagated in the presence of carboxylic acid.

The Examiner therefore purports that it would have been obvious to one of ordinary skill to develop hybrids of baker's yeast tolerating high sugar concentrations in dough as disclosed by R3 and to propagate such strains in the presence, of carboxylic acids having 2-4 carbon atoms as taught by R2.

Applicant respectfully traverses the rejection and disagrees for the following reasons.

R3 teaches strains which are capable to ferment in dough containing 30 to 50% of sugar (see column 2, lines 12-21 of R3).

As disclosed explicitly in this document, the disclosed strains P-712 and P-731 have the same leavening activity on dough containing as much as 25% of sugar than a control strain called "regular yeast" (see R3 column 10, lines 48-56: "the inventive US had a leavening ability at the same level as the regular yeast and could produced excellent bread of stable quality and softness, and with larger volume, from dough blended with sugar in an amount of 5% to 25% to time.)

It further appears that the said regular yeast has a CO_2 production of 171 ml CO_2/40 g of dough/2h for a dough containing 30% sugar (see table 2 column 6). Since 40g of the dough corresponds to 400 mg of dry matter weigh of yeast (see column 6, lines 27-28), the CO_2 production of regular strain is [(171/2)1/400)=-0.21 ml of ,CO_2/h/mg of dry matter content of

yeast. As we stated above, the CO_2 production of stain NCYC996 expressed in CO_2 ml/h/mg of dry matter of yeast in dough containing 27.5% sugar (baker's percentage) is between 0.19 to 0.20 ml of CO_2/mg of dry matter of yeast. **Thus, the NCYC966 strain can once again be considered as an equivalent strain of the "regular yeast" and of the P-712 and P-731 strains disclosed in R3 since they have the same level of CO_2 production in sweet dough condition.**

Further, as already stated above, R2 teaches a method in which baker's yeast is propagated in the presence of carboxylic acid having 2-4 carbon atoms. The dough used in R2 for assaying the leavening activity of yeast in presence of organic acids contains only wheat, salt and tap water and contains no sugar (see line 64-66 of column 5 of R2).

Similarly to the arguments above regarding the combination of the teachings of R1 and R2, it results from the above that combining R3 teaching with that of R2 would have led the skilled person in the art to prepare strains possessing both

a good leavening ability on sweet dough, and

a good leavening ability under acid conditions.

Considering that the NCYCY996 strain used as a control in the present application actually possesses the same leavening ability on sweet dough that the strains disclosed in R3, and further considering that the present application unambiguously discloses that adaptation of the NCYC996 control strain to acid conditions through the use of a process similar to that disclosed in R2, it must therefore be acknowledged that one of ordinary skill would at most have obtained the NCYC 996 strain in combining the teachings of R3 and R2.

As discussed previously, the claimed strains differ from the NCYC996 at least in that they display improved proof time, which results in a shorter time for development of the dough in the pan before to be placed in the oven.

This enhancement of the strains properties could in no manner be expected by the skilled person in the art from the mere combination of R3 and R2 since none of these documents actually teach a selection process leading to the preparation of strains capable to growth on sweet dough containing or not carboxylic acid and further having a reduced proof time. This is confirmed by the teaching of R3, in particular in tables 12, 15 and 27, which unambiguously disclose that the prepared strains show no improved proof time with respect to the "regular yeast" used as control.

It should therefore be acknowledge that the claimed strains of the present invention are much more than the mere combination of R3 and R2 teachings and that the skilled person in the art would never have had no reasonable expectation of success to prepare the claimed strains in view of these two documents.

The 1-2971, 1-3142 and 1-3143 strains claimed in the present application are therefore patentable over R3, even in view of R2.

Accordingly, Applicants respectfully request withdrawal of the rejection.

IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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